

DERWENT- 1979-13525B
ACC-NO:
DERWENT- 200400
WEEK:

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TITLE: Prodn. of a porous tantalum plate for an electrolytic capacitor - by adding camphor and naphthalene to tantalum powder and sintering under vacuum

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PRIORITY-DATA: 1968JP-0080641 (November 6, 1968)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 79001021 B	January 19, 1979	N/A	000	N/A

INT-CL (IPC): H01G009/05

ABSTRACTED-PUB-NO: JP 79001021B

BASIC-ABSTRACT:

Prodn. of a porous Ta plate comprises (a) dissolving 2-7 wt.% (based on Ta powder) camphor in a benzene to form a soln. (I); (b) adding (I) to Ta powder, to form a mixt. (II); (c) mixing (II) with 0.2-2 wt.% (based on Ta powder) naphthalene; (d) sintering the final mixt. under vacuum to form a porous Ta plate.

Since the distribution of gaps or spaces among particles of Ta powder is made uniform by adding camphor and naphthalene to Ta powder, the solid electrolytic capacitors produced have low loss, and temp. dependence, of capacitance.

In an example, 5 wt.% camphor is dissolved in benzene and the material is added to Ta powder. 0.5 Wt.% naphthalene is then added to the Ta powder. The materials are mixed in a ball mill for a long time and the mixt. is moulded. The moulded plate is heated at 200-300 degrees C at 10⁻³ - 10⁻⁷ Torr to completely evaporate the camphor and naphthalene. The plate is then sintered at 1800-2400 degrees C to provide a Ta plate.

DERWENT-CLASS: E14 E15 L03 M22 V01 X12

CPI-CODES: E10-F02A; E10-J02B4; L03-B03A; M22-H; M22-H03G;